Japan: Its Industrial Policies and Corporate Behavior

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THE JAPANESE ECONOMY has received several severe shocks since 1971: a 20% Yen revaluation, a quadrupling of oil prices, a severe inflation, a major worldwide recession, and a large shift in domestic priorities. However, Japan is again proving its critics wrong by handling these problems with little dislocation or hardship, especially compared with other industrialized countries. Restrictive monetary and fiscal policies brought yearly consumer price rises down to 7.6% for December 1975 over December 1974 and to 10.4% for 1976 relative to December 1975. On average 1976 and 1975 wholesale prices were only 5.3% and 3% higher respectively than the year earlier compared with a 33% rise in 1973-74, and export prices have hardly changed at all, actually declining 2.9% in 1975 and rising only 1.4% in 1976. This is one of the best performances of any industrialized country in terms of percentage reduction in inflation.

The trade balance was firmly in the black for both 1976 and 1975 with 1976-74 exports up 20.7% over 1975, 0.6% over 1974, and 50.2% over 1973 respectively. The trade surplus was a healthy $8.9 billion and $5.6 billion for 1976 and 1975 versus $1.4 billion in 1974 and $3.7 billion in 1973. The 1976 balance of payments was $2.9 billion in surplus compared with a deficit of $2.7, $6.8, and $10.1 billion for 1975, 1974, and 1973.
Each year has been an improvement over the other despite the mammoth increase in the oil bill.

Unemployment increased during the recession and was slightly less than 2.0% in 1975. It is now running 1.7%. Real GNP also declined in 1974 for the first time in the postwar period (1.3% according to official estimates). However, this economic decline was mild relative to other countries, and the economy's real growth for 1975 was 2.4% and should be about 5.5% in 1976. Wage settlements in major industries in recent "spring wage offensives" (1976 and 1975) apparently averaged 10-15% compared with 30-35% in 1974 and should again be around 10% in 1977.

The Japanese economy has been strong, successful and resilient not only through high growth periods but also during a period of real economic pressure and adversity. Many Western businessmen and economic observers have often argued that highly leveraged Japanese companies with permanently employed labor used to high yearly wage increases, though successful in an expansionary period, could not sustain a major economic downturn. They predicted that if expansion stopped, Japanese firms' high leverage and resultant high fixed costs would then work against them. This prediction has not materialized. How does one explain this strength and responsiveness, and what are the economy's future development prospects given basic changes in its situation?

**Japan's Industrial Supply Management**

Japan's economic strength and ability to manage the recent economic shocks have in fact depended to a large extent on her industrial supply structure. Industrial capacity is heavily concentrated in basic capital-intensive industries like steel, chemicals, nonferrous metals, oil refining and shipbuilding. But whereas Japan is heavily invested in very efficient capacity in such industries, the world is relatively short of such production capability. These industries thus directly provide a large part of Japan's exports as well as the competitive base for the whole economy. For example, chemicals, paper, oil, rubber, metals, mineral, machinery and equipment (excluding autos and consumer electronics) have accounted for around 56% of total manufacturing production since 1960, growing at around 15.0% p.a. But they have provided an increasing proportion of exports, 67.2% in 1973 compared to 44.7% in 1961, and export growth has been closer to 30.0% p.a. Japan's economic future is therefore dependent on their continued international competitiveness. Her supply structure is largely the result of the combined workings of the economic system and the government's industrial policy. Any shift in policy priorities must thus look at the possible effects on these industries' long-term competitiveness and in turn on Japan's future economic stability.

As discussed by Yoshi Tsurumi in this issue, Japan is admittedly at an historic turning point in establishing its national goals. For a hundred years (1870-1970) she faced an economic gap with the West and inadequate foreign-exchange earnings. Her economic objectives were growth, exports and industrial investment. Now, as a result of her postwar economic success, she has attained industrial parity and an export surplus. However, higher incomes have also brought demands for an improved life style, a cleaner environment and better welfare. Rapid industrial growth has been achieved at a high cost in terms of pollution, social under-investment and soaring land prices. The last in particular has put private homes generally out of reach of even the upper middle class, have made it difficult to increase recreational and other public facilities and have hindered the rationalization of distribution through large-scale stores. Further, rapidly rising industrial wages have hurt and inflated traditional labor-intensive sectors like agriculture, services and distribution since they
have not experienced productivity and investment increases similar to the manufacturing sector. Social and political dissatisfaction have thus risen along with economic success, and policymakers have been forced to see the need for a new economic approach, stressing social issues rather than exports and industrial expansion. Declining voter support for the ruling LDP has accentuated this point.

Implementation of a new policy is difficult because big business continues to resist higher taxes and because the country cannot afford to impair businesses' long-term competitiveness. Nevertheless, current policy argues that the present supply structure can both maintain Japan's competitiveness through 1980 and provide the base for a cleaner, less oil-dependent, more knowledge-intensive and still competitive future industrial structure. Japan is not under-invested in basic industries, and obsolete capacity in those industries is not creating inflationary pressures. Nor is the over-emphasis on consumer goods and services. Japan is thus in a good position to benefit in a noninflationary way from the coming recovery and to gradually shift her industrial structure. This is due to the three factors that are still present in Japan; namely, her supply management, the economy's competitive development, and the unique cooperation among the government, business, and labor sectors. Without these three elements Japan's supply structure would probably have evolved similarly to that in other industrialized countries, and demand management alone would not have been so successful in moderating inflationary pressures with only minor economic dislocation.

**Japan's Indicative Planning Process**

During the postwar period Japan developed a logical, interrelated and mutually reinforcing set of policies and institutions which involved government, business and labor and which promoted growth, economic strength and international competitiveness. These institutions and policies have determined Japan's industrial structure (supply management) and have combined with traditional monetary and fiscal policy (demand management) to help produce Japan's economic miracle. In particular, there has been a creative refinement and extension of the close business-government cooperation of the prewar period, strengthened by the war and the difficulties that followed, into an indicative economic planning system based on mutual trust and a non-adversary relationship. This of course contrasts with the atmosphere existing in the United States.

Starting with power, steel, coal, shipbuilding and fertilizers, Japan successively targeted a few strategic industries whose development was basic to economic growth. What began, however, as an ad hoc and practical response to immediate needs for industrialization and increased foreign-exchange earnings has gradually become an explicit policy of changing industrial structure and comparative advantage in order to upgrade the economy. Power, steel and coal promoted industrialization. Shipbuilding replaced Japan's shattered merchant fleet and reduced exchange expenditures. Fertilizers increased agricultural self-sufficiency, reduced imports and released labor for manufacturing. However, autos, chemicals, petrochemicals, electrical machinery, electronics and computers, which followed, were intended to upgrade manufacturing activity and sophistication.

Japan has not just drawn up indicative economic plans but has actually pursued a strategy appropriate to her position in the economic development of the world. The government recognizes that as an economy grows, wages and incomes rise, and capital, technology and labor skills increase. As demand for more capital- and technology-intensive products develops, they become relatively cheaper to produce. Less developed countries produce primary goods and simple manufactures like handicrafts and textiles, while more advanced economies produce steel, then ships, automobiles, petrochemicals, computers, aircraft and so on. There is an upgrading within industries as well, e.g. from cotton to synthetic textiles or carbon to specialty steels. As one country becomes competitive in a product or industry, more advanced countries become less competitive as their markets mature and
factory costs become less appropriate for producing these commodities. For example, Japan initially exported green tea, coal, copper and raw silk, but now imports such food and raw materials and exports steel, ships, chemicals and so on. In this way industrial structure changes and the comparative advantage within and between industries shifts from one country to another. And it is the conscious recognition of this shifting pattern of competitiveness and economic development which forms an important part of Japan’s industrial policies.

The Japanese government’s concern with achieving national economic goals goes back to the nineteenth century. But as practiced today, economic planning is a phenomenon that emerged primarily from procedures developed to solve post-World War II economic problems. This planning concerns the allocation of resources among economic and geographic sectors and assistance to certain industries, though even industrial policy is not comprehensive and most decisions are left to the market and the actions of individual economic units. Contrary to a popular myth abroad, the Japanese government’s interference as noted above is limited to a few key sectors and is mostly in the form of incentives, cooperation and guidance—no compulsion. There are basically three different but interrelated parts to the planning process: national economic planning, regional economic planning and industrial policy. However, the last has had so much real force that the first two have almost become the residuals of industrial policy, and their most successful aspects have been related to industrialization. The reasons for this are found in the indicative planning process itself.

Overall responsibility for planning is vested in the Economic Council attached to the Prime Minister’s Office and is composed mostly of former government officials and prominent businessmen, but also includes labor leaders and academic experts. In reality, though, the planning and implementation is carried out by the coordination bureaus (gendaiyoku) of the ministries. These bureaus determine the objectives for their particular economic sectors or industries always in close dialogue with the corresponding business associations—or in the case of the Ministry of Agriculture, agricultural fishing cooperatives; or in the case of the Ministry of Labor, labor unions. Each ministry then rationalizes these targets into a program through an iterative dialogue among its gendaiyoku but also based on the Economic Council’s general policy guidelines and the ministry’s own specific policies developed in consultation with the outside advisory councils to the minister.

These ministry plans are then submitted to the Economic Planning Agency (EPA) who compiles them and compares the result to EPA’s macro-economic forecast—based on the expected budget, money supply, industrial capacity, export demand and so on. Specifically, the plans are tested for consistency with each other and with the constraints indicated by the macro-economic forecast. Since initially these results are usually over-ambitious and inconsistent, a dialogue ensues between EPA, the ministries, the gendaiyoku and the various private sector associations and advisory councils.

However, it must be remembered that EPA has no legal or administrative power; this is vested in the ministries. EPA does not impose any centralized plan, but rather acts as an information processing agency facilitating a dialogue among the various elements of the economy. What emerges, therefore, is not a predetermined plan with specific targets but a consensus forecasting the economy’s likely performance, built from businessmen, and farmers at the working level.

As this forecast involves all parts of the economy, it becomes the National Economic Plan. But within this are concerns for regional development, i.e. regional economic plans, and also specific programs developed by the industry gendaiyoku, particularly those of the Ministry of International Trade and Industry (MITI), which make up Industrial Policy.

Given this procedure, the planning process has been good at gathering information for policy decisions, and economic shocks do not find officials without specific industry data. Further, by
creating a dialogue between sectors, policy trade-offs regarding an industry’s development or an allocation of resources are clarified. Some consensus is then worked out, helping to avoid future political and social friction.

Still, even though approved by the Economic Council, the plan per se is only indicative, with no legislative implications except for the government budget. It has been quite accurate, nevertheless, in projecting the direction of economic development because of its reflection of microeconomic realities. It has been less successful, though, in forecasting actual numbers since each economic unit responds on its own to actual events, many of which are unexpected and are external to both the genkōyoku’s and Japan’s control (e.g., Nixon shock, oil crisis, floating exchange rates and world commodity prices). Thus, Five-Year Economic and Social Plans, as well as Regional Plans and Industrial Policy, have quickly become obsolete in terms of results and statistical forecasts, and have had to be revised every two to three years. But this is a rather minor difficulty since the government and the community have had a good idea of the economy’s direction and goals. They have thus been prepared for and directed toward particular goals, an orientation which has facilitated economic change. Indeed numbers have been less important to Japanese planners than trends, and though the former have been more quickly achieved than anticipated the latter have remained essentially intact. Therefore, critics of the effectiveness of the planning process who have focused on constant revisions in projections, have really missed the basic emphasis and success of the system in directing the economy towards certain long-term goals for which particular forecasts have only been waystations.

**Changes in the Planning Process**

The past success of Japan’s indicative planning process has somewhat depended on its limited national goals of rapid industrial growth, increased investment and export expansion—all focused on the development of heavy industry. These limited objectives made MITI the arbiter of postwar planning and industrial policy because most industry bureaus, especially the heavy industry bureau, are under its control. Further, until the mid-1960s, MITI controlled such critical raw material imports as coal, iron ore and oil, and MITI approval is still needed for capacity expansions and additions. Thus, to a large degree, MITI was able to administer its own policy as the national development policy and to implement this policy at the genkōyoku level—encouraging the development of specific sectors, restraining “excessive competition” and assisting declining industries.

These goals were also helped by the Ministry of Finance (MOF). Because MITI’s policy of industrial expansion required substantial business borrowing, the MOF retained good control over economic activity as banks could only finance such growth by borrowing from the Bank of Japan (BOJ). Through BOJ window guidance, the MOF was able to keep industry, the banks and the economy under tight financial control. Conversely, if the MOF had placed more reliance on fiscal policy, its flexibility in dealing with economic change, particularly in the balance of payments, would have been reduced because a budgetary expenditure program, once started, tends to continue and expand. The MOF thus preferred MITI’s industrial expansion program financed by debt rather than spending through the government budget for national and regional development.

The result was a full-employment surplus and reliance on monetary policy combined with a rapid buildup of Japanese industry, but at the expense of social overhead facilities, welfare and similar government expenditures. These latter aspects of national and regional plans were sacrificed or at least became residual to industrial policy, especially as industry’s actual performance outstripped the government plans.

Unfortunately, the recent development of new national goals and new plans stressing the environment and the quality of life do not completely solve this priority problem. Because of the wider range of goals, responsibility for implementation is now widely spread among the ministries with no one...
Ministry having over-riding responsibility. Further, as the Plan is only indicative and industry's political and economic power remains strong, industry can successfully oppose it, as they have in the past, if they feel the new programs are illogical or not in their interest. In addition, the attitudes of MITI and MOF towards industrial policy and guiding the economy have not changed as dramatically as the stated priorities even though MITI has substituted more horizontal coordinating bureaus for some of its industry bureaus. Therefore, though consensus has been reached on the need for change, the direction of change, and the new national priorities, the actual implementation programs have yet to be resolved. Industry, particularly heavy industry, is not yet sure to what extent resources should be transferred elsewhere, how successful overseas investment will be, which industries should be rationalized or which social investments should be made.

This situation shows the difficulty of successful indicative planning when applied to a context wider than industrial policy, one that involves social improvements, multiple government agencies and diverse private interests. This is true even in Japan with its homogeneous population, good internal communications and traditional, close business-government cooperation.

Dynamics of Policy and Industrial Development

In order to benefit from the Japanese development pattern and planning process, however, a country must not only encourage new industries but ensure that private firms develop competitively. For this reason, Japan has not only protected successive infant strategic industries from foreign competitors but has also promoted domestic competition. The government provided performance incentives such as rapid depreciation, special tax reserves for export and low-cost credit from government banks but not subsidies. In this way, scarce resources of capital, technology and foreign exchange have been allocated to the highest growth, most successful industries and firms. Further, as banks have been the main source of funds since the war and firms have had few equity injections, the government has implicitly guaranteed loans to large Japanese manufacturing and trading companies, particularly in target industries. To the extent they could, investing the funds, money was in turn made available to over-loaned city banks by Bank of Japan discounting. Therefore, high leverage has been a function of high growth, high investment and competitive success. At the same time, various groups of manufacturing and trading firms have tended to grow up around a particular lead bank.

This leverage supported by bank debt has enabled Japanese firms to pursue growth without being confined by retained earnings while lower capital costs due to the tax deductability of interest costs have permitted, indeed encouraged, lower pricing. This has helped companies to grow rapidly and cover interest costs. Since rapid growth means substantial productivity gains, this situation stimulates further price reductions, investment, borrowing, tax benefits and expansion. Hence, the logical Japanese emphasis on investment and market share. Since other firms are doing the same things, there are external competitive pressures to keep up, in addition to government encouragement and internal pressures to court fixed interest costs, and to grow.

The system is stable since Japanese banks see themselves as capital suppliers to major corporations and do not expect repayment. Bank loans are regarded much in the same way as capital market funds are regarded in the United States and fill the gap left by the underdeveloped Japanese capital markets. Reported short-term borrowings are actually "evergreen" funds that are cheaper than equity. Further, to protect their investment, banks will lend additional funds during economic downturns so that debt increases to finance inventories or losses until they can be reduced by an upswing in earnings. These high debt levels have, as already noted, contributed to making monetary policy the most effective tool of postwar economic policy that the government could use to control investment and overall economic growth.
Japan's permanent employment system is a similarly logical function of growth. As discussed by Byron Marshall in this issue, Japan's permanent employment system was first encouraged by the government and business elites to avoid massive unemployment and social disturbances. It became beneficial as firms grew rapidly, needed a stable, well-trained labor force and recruited low-cost recent graduates. It also meant that average labor costs became a function of age and growth, and as workers are tied to the firm for life, strikes are few and innovations are readily accepted. In addition, the benefits of training and of upgrading the labor force through education and more productive employment are immediately apparent to the individual firm. The system as a whole therefore facilitates leverage and growth, and the government has supported it in recessionary periods by paying part of the cost of retaining "excess" workers until demand picks up.

A combination of policies and institutions encourages resource (capital, labor, technology) transfer toward high-growth, successful industries and firms and creates rapid product cycle evolution and new industry development. This process has been supported by Japan's high personal savings rate and the government's full employment surplus combined with a liberal monetary policy that has converted these savings into productive industrial investments with the help of Japan's aggressive business managers.

The Competitive Behavior of Corporations

Government policies, high leverage, the permanent employment system, increased investment, rapid cost reduction, intense market share competition, aggressive pricing and rapid product cycle evolution have in effect created a mutually reinforcing and dynamic system continuously promoting economic growth. High firm growth reduced average wage costs and increased productivity, thus resulting in rapid cost reduction. Managers, recognizing this benefit, competed for further growth which meant competition for new markets and market share, including exports. Cost reductions were usually passed on as price reductions domestically and overseas. Accordingly, product cycle development proceeded rapidly as new products benefited from the growth incentives, whereas more mature products suffered from higher labor costs declining tax benefits and less need for new capacity (i.e., less investment). As the postwar period evolved, government officials and business managers became more explicitly conscious of the above phenomena and began to build these expectations into their economic decisions so that the whole cycle became a self-fulfilling and mutually reinforcing set of developments. In addition, export market development and price aggressiveness were a logical extension of domestic competitive behavior.

Economies of Scale in Japanese Firms

This situation, in fact, has been especially noticeable in basic industries, like steel, chemicals, shipbuilding, electrical machinery, etc. In these industries productive capacity increases according to volume of production (i.e., exponentially), whereas costs of construction increase according to surface area (i.e., linearly). Therefore, if larger plants can be engineered, they will be more efficient. The efficient plant size in many major capital-intensive industries has in fact grown from ten to twenty times between the 1950s and 1970s. An efficient steel mill in 1956 was 360,000 tons/year compared to 5 million tons/year today, or an oil refinery was 10,000 bbl/day in 1955 compared with 200,000 bbl/day today. In addition, ships are subject to the same cost-volume economies which helped lower raw material costs as carrying capacities rose, increasing overall price competitiveness and leading to more investment, including in ships. Inflation and environmental issues have also greatly increased the cost of building any given capacity unit. The combination of increased unit size, inflation and pollution control has meant that new efficient capacity units and accompanying transportation requirements are very large and very expensive.

The cost of a steel mill including required coal and iron mine development is now well over $2
billion. Similar increases apply to oil refineries, petrochemical complexes and so on. There is also the need for large bulk carriers or oil tankers. Because additional new units of production capacity relative to total demand are now much larger, the planning and investment period is longer and the financing needs relative to company size are greater. Therefore, the risk of capacity additions has increased and may even have discouraged new investment in some industries and countries. In Japan however, this has not occurred.

As noted earlier, Japanese firms have high debt levels and a permanently employed labor force. For Japanese firms, given readily available bank financing, the risk is in not investing. If you do not expand, competitors will then increase their relative market shares and cost effectiveness. These principles apply to all firms but are particularly applicable in industries requiring high fixed investment and larger and larger incremental capacity units.

The difficulty in continuing this process arises when domestic and export markets no longer expand in response to price reductions. This situation is known as "excessive competition." At this point, the government usually helps form a temporary price cartel and queues further investments, based on existing market shares and future export and domestic demand projections. Competition is thus stabilized and further investment is a necessity but with little risk attached. This is how the economy's operation has led to the substantial and efficient investment in capital intensive industries noted earlier. This efficient manufacturing sector has kept export and wholesale prices (largely manufactured goods) stable and competitive throughout the postwar period (except 1973-74).

International Competition: Mutual Lessons for Japan and the United States

Japan's international competitiveness is a function not only of her investment in efficient capacity but also of underinvestment by other industrialized countries, particularly the United States and United Kingdom. This underinvestment is due partly to Japan's aggressive pricing and export penetration but also to the increased risk of such investment given its greater volume and cost, lower rate of return and larger and larger financing requirements. United States and United Kingdom firms have had no one to queue investments, reduce potential "excessive competition" or implicitly guarantee substantial bank borrowings. Nor does the current policy debate on planning or energy in the United States indicate as yet that the trust and cooperation necessary to foster the kind of mutually beneficial and self-sustaining industrial policy characteristic of Japan now exists. On the other hand, Japan's emphasis on private competition is equally important if one compares Japan's success with France's planning effort. The French government felt compelled to buy Renault and three city banks to get cooperation.

More importantly, these other governments have not taken into proper account the effect of their various economic policies on their countries' supply structures and business dynamics. Support of declining industries like textiles through tariffs and quotas have reduced resources available for basic and high technology industries while encouraging countries like Japan to invest in these other industries. Large full employment deficits combined with tight money policies have similarly transferred money from potential basic industry investment to the government and consumers. Capital-intensive industries are particularly vulnerable to such actions as they tend to rely more heavily on the long-term markets and outside financing than do consumer goods firms which can usually raise fairly easily the funds they need internally, from bank borrowings or equity issues.

In fact, even for Japan, a recent article by the Boston Consulting Group called "Debt, Growth and Competitive Position" clearly indicates the expected divergence in debt usage between heavy and light industry. Whereas steel, non-ferrous metals, chemicals, pulp and paper increased their leverage (debt-equity ratios) between 1969 and 1974 from 2.7 to 3.6, 2.4 to 3.1, 2.7 to 2.8 and 3.7 to 4.4 respectively, industries such as electronics and pharmaceuticals lowered theirs from 1.5 to 1.1 and 0.4 to 0.2 respectively. At the
same time, the study shows that firms with smaller market shares, who are less competitive in each industry group, use greater debt to stay in business than their bigger competitors who are more profitable. In fact, in light industry the leading firms actually reduced or eliminated debt during the 1969-74 period, whereas the less strong companies increased their debt-equity ratios. Yet even so, the weaker companies within light industry still have lower D/E's than the leading heavy industrial firms, further indicating the cleavage in investment requirements between the two groups and heavy industry’s real need for long-term bank debt to finance additional capital expansion. Some 85% of new equipment investment was financed by bank debt in 1975.

Depreciation schedules for corporate taxes that do not allow for inflation have also especially affected the large-scale investor. However, these basic industries' efficiency or lack thereof permeates the entire economy, and because of the long gestation period for capital expansions, bottlenecks can cause severe and lasting inflationary pressures. Therefore, though Western utilization of Japan's planning and implementation techniques is not possible given western financial institutions, antitrust laws, political values and traditional government-business-labor relations, Japan's example provides the United States and other Western competitors with considerable public policy implications. In particular, government's attention could and should be devoted to the supply structure and the effects of monetary, tax and fiscal policy on it and its long-term competitiveness. This has been critically lacking in the past.

The beneficial consequences of such past policy differences for Japan are that she has been less affected by the recent international economic crisis. The world continues to need her exports, and relatively less manufacturing capacity is concentrated in consumer goods, the sector most affected by the recession. Thus, unemployment has remained low, while exports have continued strong, sometimes at a premium price. Further, according to government analysts, despite a reduction in investment rates between 1971 and 1974, heavy industry projects coming on-stream by 1978-79 will be sufficient to handle both additional domestic demand and export requirements.

On the other hand, the very success of Japan's industrial policy has meant that resources were transferred very rapidly to the industrial sector at the expense of other sectors, particularly social services. This lack of resources in other sectors has led to the convergence of the environmental and social problems mentioned earlier. Success has also increased the policy-making power of big business and their related government ministries on social and economic matters both domestically and overseas. This emphasis has generally excluded other values opposing economic or business interests, with adverse political consequences at home and abroad. Therefore, the longer-term future is still not entirely clear even for Japan's basic industries as they face some major uncertainties that will affect the entire industrial structure.

**Future Prospects**

In 1971, the government realized the need for new social and economic goals. Initially, they believed the economy should be upgraded by shifting from basic heavy industry towards new, clean, knowledge-intensive industries like computers, electronic devices, consulting, fashion, oceanography and aerospace, continuing the past pattern of inter-industry product cycle development. Polluting industries would be moved offshore, and the government would increase expenditures on social overhead. However, revaluation, inflation, world political and economic uncertainties, balance-of-payments deficits and stiff foreign competition in the new industries have caused partial modification of the plan.

Upgrading economic activity remains the objective, but development will be based on intra-industry changes in the existing supply structure. That is, Japan's materials-processing and machinery industries will upgrade their technology, gradually reducing low-level processing and moving into fabrication, engineering, plant-and-equipment production, pollution and energy-saving technology.
new process development, prefabricated housing, ocean development and so on. Low-level material processing will slowly be moved offshore with Japanese firms exporting machinery, technology and management assistance while importing part of their own industrial output from abroad. Firms will also continually modernize existing facilities. In this way, Japan plans to use and maintain her current economic strengths while managing the transition to a cleaner and higher quality industrial environment.

This scenario implies major managerial changes for both government and business as major Japanese firms face new and critical issues. Though perhaps not major problems, these issues will require modifications in past responses. The economy as a whole will grow only around 6% p.a. instead of 10-12% with heavy industry in particular entering the more mature phase of the product cycle. This will require investment more for modernization than capacity expansion accompanied by expensive R & D and large lumpy investments. This development will tend to increase capital output ratios for industry. At the same time, more social overhead and pollution control investment will raise them for the economy as a whole.

Further, competitive pressures from the LDCs and the advanced countries in the low and high end of the technological spectrum will tend to concentrate competitive development even more in heavy industry as well as in electronics and automobiles. But there will be greater foreign opposition to increased Japanese exports of these products which affect the basic economic structures of other countries so directly. There is no simple solution to this trade/employment issue as revaluation or economic expansion will only tend to accentuate the concentration of exports and imports (raw materials, food and high technology machinery) in their respective current molds. This increases the risk of new and expensive lumpy investment. Nor will Japanese firms any longer be able to operate in the United States and E.E.C. merely as extensions of Japan. More attention will have to be paid to indigenous values, pressures, economics and politics. And, of course, overriding all of these business/economic issues will be the need for more social concern and awareness by big business as a whole.

But there are also some concrete obstacles to achieving this revised plan. Because firms in basic industries are internationally competitive, the government will not provide any special development assistance. Yet, investment costs have soared, land sites are scarce, pollution and safety regulations are strict and banks now limit loans to single borrowers (20% of capital plus reserves). Even to scrap and build on existing sites is difficult given higher investment costs and the application of the new pollution regulations. Further, offshore investment has proved time-consuming and difficult due to nationalism, little infrastructure at potential sites and large offshore financing requirements.

However, the general supply plan of Japan will probably take shape within the next decade because it makes economic and social sense and because institutions and policies favor the basic materials and heavy machinery producers. These firms still feel pressures to grow and can benefit from sources other than their main bank. They still benefit from rapid depreciation and special reserves and can obtain government bank credit for anti-pollution and overseas investment (either plant export or raw material import projects). They are also of international stature and can raise funds abroad even when the government is legally required to run a balanced current account, and when new industries like computers receive limited direct assistance from the government.

These prospects, though, are not due to any "Japanese Mystique" nor to low cost labor, dumping or low profits. Wages are at European levels; some exports have been sold at a premium, and return on equity is equivalent to that of U.S. firms in similar industries. Rather, success will depend on logical attention to supply combined with an appropriate strategy for long-term development. Supply management looks when its objectives make economic sense; merely having a plan and
goals is recognized by business and government leaders as insufficient.

At the same time, it should be recognized that the correctly proposed plan and supply management program remain essentially focused on the industrial structure and continue past emphasis on industry and big business. To this extent, there is a continuing policy and implementation bias impeding major solutions to the problems of social welfare and infrastructure investment for the people or to the trade/employment issues encountered overseas. Also, inflationary pressures on land, agriculture, distribution and services are likely to remain political and economic issues not fully addressed by these proposals but still involving large portions of the population. Thus, while supply management in the Japanese context has been and will be extremely important in achieving past and current goals and in supporting economic and business achievement in the narrow competitive sense, its wider social or diplomatic consequences are often less favorable. Hopefully, in learning from this experience, other nations as well as Japan will both pay more attention to the consequences of government policies on the supply structure and economic competitiveness and still keep a balanced view of national priorities.

NOTES

1. Virtually 100% of Japan's oil is imported, and oil accounts for approximately 75% of Japan's energy. Oil imports soared from $4.5 billion to $21.2 billion in 1974, to $21.0 billion in 1975 and to $33.3 billion in 1976.

2. Supply management refers to the government's conscious concern with the evolving structure of the economy both in terms of the impact of government policies and the development of the private sector. In this sense it contrasts with the United States' sole reliance on demand management (i.e., managing the economy by controlling the level of demand via monetary and fiscal policies) and corresponds more to France. However, the Japanese government does not make the same effort to control the economy directly as does France. For instance, there is no government ownership of major corporations or city banks.

